BUCKLAND
Health Clinic

Alaska Rural Primary Care Facility
Code and Condition Survey Report

July 23, 2001

I. EXECUTIVE SUMMARY

Overview

The Buckland Clinic is a prototype clinic similar to many others in the Kotzebue region. The clinic is reported to be about 12 years old, however, it appears much older. It has deteriorated due to inadequate maintenance and heavy use. The clinic has inadequate space for new telemed equipment, faxes, copiers and other equipment. The building has been remodeled to provide a larger mechanical room and waiting area, however, the new arrangement does not allow staff to observe the client waiting area. The lack of adequate space for medical supplies and the lack of a trauma room prevent the staff from providing the level of care needed on a daily and emergency basis.

Renovation and Addition

The existing clinic is 1152 s.f. and would require an addition of 848 s.f. to meet the 2000 s.f. minimum area recommended for a small clinic by the Alaska Rural Primary Care Facility study. The floor plan layout would require the remodel of approximately 75% of the interior space. Additionally, the poor condition of the building will require extensive upgrades to improve the foundation, thermal enclosure and other building systems. The cost of required renovations and code upgrades, combined with the cost of a new addition equal 130% of the cost of a new clinc.

New Clinic

Because the cost of renovation and addition is more than 75% of the cost of new construction, a new clinic of at least 2000 s.f. should be built to replace the existing clinic. The community prefers the current clinic location and has proposed to build the new clinic, if approved, on the current site, relocating the existing building to a new site. The current site is near utilities, the school, and other community services and is of adequate size to accommodate a larger structure.

II. GENERAL INFORMATION

A. The Purpose of the Report

ANTHC has entered into a cooperative agreement with the Denali Commission to provide management of the small clinic program under the Alaska Rural Primary Care Facility (ARPCF) assessment, planning, design, and construction. The purpose of the Code and Condition Survey Report is to validate the data provided by the community in the Alaska Rural Primary Care Facility Needs Assessment and to provide each community with a uniform standard of evaluation for comparison with other communities to determine the relative need among the communities of Alaska for funding assistance for the construction of new or remodeled clinic facilities. The information gathered will be tabulated and analyzed according to a set of fixed criteria that will yield a priority list for funding. Additionally, the relative costs of new construction vs. remodel/addition will be evaluated to determine the most practical and cost effective means to bring the clinics up to a uniform standard of program and construction quality. The information provided in this report is one component of the scoring for the small clinic RFP that the Denali Commission sent to communities in priority Groups 1 and 2.

B. The Assessment Team

The survey was conducted on May 21, 2001. John Crittenden, AIA, Architects Alaska and Bill Henriksen, PE, RSA Engineering completed the field inspection for this project. Mark Anderson of ANTHC and Jim Howell of Maniilaq Association were the team escorts. Mark reviewed alternative site locations with village leaders. Jim is an Environmental Health Specialist for the region and this trip accounted for one of his scheduled community visits. Both Mark and Jim knew the village contacts personally and made introductions and conducted the village briefings. Team members who assisted in the preparation of the report included Stephen Schwicht and Ian VanBlankenstein of NANA/DOWL, project managers for the survey team, and Jay Lavoie of Estimations, Inc.

C. The Site Investigation

The format adopted is similar to the “Deep Look”, a facility investigation and condition report used by both ANTHC and the Public Health Service, in maintaining an ongoing database of facilities throughout the country. Facilities are evaluated with respect to the requirements of the governing building codes and design guidelines. Building code compliance, general facility condition, and program needs have been evaluated. This written report includes a floor plan of the clinic and a site plan indicating the existing clinic site. Additional information gathered during the site investigation that is referred to in the report, which includes sketches of building construction details, a building condition checklist, and proposed plans for village utility upgrades, are not included with this report. This information is available for viewing at ANTHC’s Anchorage offices and will be held for reference.

III. CLINIC INSPECTION SUMMARY

A. Community Information

The community of Buckland has a current population of 406 as published in the 2000 U.S. Census. It is located 75 miles southeast of Kotzebue in the Cape Nome Recording District. It is a part of the NANA Regional Corporation. Refer to the attached Alaska Community Database prepared by the Alaska Department of Community and Economic Development in Appendix C for additional community information.

B. General Clinic Information

The Buckland Clinic was constructed in 1989 and is similar in design to other clinics in the region. This particular plan is a prototypical design replicated in at least four other villages surveyed. Some of these clinics have been remodeled and improved. The Buckland Clinic has been modified several times through the years. It has been relocated in the village several times as well. This building is approximately 36' x 32' in size and is constructed of conventional frame walls, floor, and roof. The building has about half the insulation that would be put into a building constructed today. This interior is lined with wood paneling and is in very poor condition and the exterior needs to be re-caulked and painted.

C. Program Deficiency Narrative

The clinic program at Buckland is typical of most clinics. There are four health care workers including a Tribal Doctor and a community health aide-in-training. In addition to a lack of adequate storage and waiting space, the clinic does not have a good layout for receiving new patients, as the main office has been located at the back of the clinic. This remodeling may have responded to some particular needs at the time, however, there is absolutely no control of patients and visitors to the clinic. The main exam rooms are the first two spaces encountered when one enters the clinic. There was a discussion about a desire to open up a window in the workroom wall into the waiting area and this would be a good immediate fix to this situation. The clinic makes use of three rooms for exam spaces, one serving as the trauma space. The size of the trauma room is inadequate for anything more than minor procedures and would be too small to adequately attend to the needs of a major trauma patient. Access into the building is severely restricted by the narrow vestibule and 36" doors. The existing toilet room needs to be enlarged and reconstructed to ADA standards. Based on the existing plan it would be necessary to remodel most of the building plan to work out the plan inefficiencies.

The following table illustrates a comparison between the current actual square footage (SF) and the 2000 s.f. minimum area recommended by the Alaska Rural Primary Care Facility study for a Medium Clinic:

Table 1 – ARPCF Clinic Area Comparison

Purpose/Activity	#	Existing Net SF	#	ARPCF Medium	Difference
Arctic Entry	1	20	2	2 @ 50=100	80
Wait/Recep/Closet	1	103	1	150	47
Trauma/Telemed/Exam	2	226	1	200	-26
Office/Exam	1	112	1	150	38
Admin./Records	2	274	1	110	-164
Pharmacy/Lab		-	1	80	80
Portable X-ray		-		-	-
Spec. Clinic/Health Ed./Conf.		-	1	150	150
Patient Holding/Sleep Room		-	1	80	80
Storage	1	22	1	100	78
HC toilet	1	36	2	2 @ 60=120	84
Janitorial Closet		-	1	30	30
Total Net Area				1270	
Mechanical Room		120		147	27
Morgue		-		30	30

The Buckland Clinic has a current gross area of 1152 s.f. This would require a gross building area expansion of approximately 848 s.f. in order to meet the 2000 s.f. minimum requirements for a Medium clinic.

An analysis of the existing building's program functions follows. Please also refer to the floor plan in Section H:

- **Arctic Entries**: The front door has an arctic entry which is nominally 4' x 5'. This is inadequate to accommodate a stretcher. The back door opens directly to a stair landing.

- **Waiting:** The waiting area has been carved out of the core of the building in a recent remodel. It accommodates about 6-7 patients. It is relatively small and does not have visual access to the receptionist.

- **Trauma/Telemed/Exam:** The trauma/exam room measures 9'-6" x 12'. It is not wide enough for the needs of trauma response procedures. The casework shortens the room

to 10 feet leaving an area suitable for exams and minor procedures only. The Telemed equipment is moved from room to room but resides in this space.

- **Office/Exam:** This clinic has two additional exam rooms that are not used for offices, providing a total of three rooms usable for patient visits. These rooms are adequate for examinations. Each room has a bank of cabinets used for general medical supply storage. This is not good practice as supplies are subject to theft.

- **Administration/Records:** The administration area consists of two rooms, which seem sufficient for three workstations. The main reception workstation is located in the back of the building. This is a serious problem for observation of clients and security.

- **Pharmacy/Lab:** All lab procedures occur within one of the two generic exam rooms. This is acceptable as long as this room is the lesser used of the three rooms.

- **Specialty Clinics:** Specialty clinics require the use of one of the exam rooms and the corridor space. This is a major disruption to clinic activities.

- **Patient Holding/Sleep:** None provided in the clinic.

- **Storage:** A small storage (4’ x 5’) room keeps the main medical/medicinal supplies. It is well organized but much smaller than is needed.

- **HC Toilet Room:** The toilet room is undersized for handicapped access and requires two steps up for use as the plumbing is routed under the floor on the warm side of the insulation. A better solution for this is needed.

- **Janitor Closet:** The mechanical room has been relocated and enlarged in a recent remodel. It is of adequate size, however, it is better to separate the janitor closet. The walls of this space are unfinished and have exposed framing.

- **Ancillary Spaces:** There are no ancillary spaces in this clinic.

D. Architectural/Structural Condition

The building structure is relatively intact, considering its age and the severe climatic conditions; however, the building does not comply with current design requirements for exterior shell. To adequately address the thermal requirements of a building in this climate, given the extreme cold, and high cost of fuel, the roof, walls and floor should have additional insulation. As proposed in the deficiencies this would require essentially wrapping the building in rigid foam and applying new siding, roofing and soffit materials. Three inches of rigid insulation over the existing roof would be adequate, replacing the metal roofing in the process. The walls should be furred with 1.5 inches of rigid insulation, ice and water shield, and new siding. The floor should be reinsulated with four-inch foam panels fit between the beams and placed with sealant and joint trim. Although there is little overall settlement in the foundation,

the floor requires new underlayment and sheet flooring to smooth over the irregularities, which have caused chipping and deterioration of the vinyl.

The walls require new paint and patching and the ACT ceiling needs to be leveled, secured and the damaged tile replaced. The exterior ramps need to be replaced due to poor initial construction and non-compliance with ADA guidelines. Additionally, the interior casework is very modest, field constructed, and although the surfaces are clean, the upper cabinets need doors. Much of the furniture should be replaced to provide good functional workstations and efficient file and medical supplies storage.

E. Site Considerations

The existing clinic is in a very good location. If a replacement clinic is constructed, the existing site is actually preferred by the community due to its proximity to the water treatment plant, the washeteria, and its location along the main street. It is also located less than a block from the existing school building. There is space around the building for an addition, or for a larger structure. If a new clinic is constructed the existing building would have to be moved.

Site utilities include village water, sewer, power, and telephone service directly to the building. The sewer system was frozen during our inspection and was reported to have been frozen since the previous fall. The freeze up was reported as an annual event, which is probably due to shallow depth of sewer lines and/or poor insulation of drain lines leaving the building.

F. Mechanical Condition

Heating and Fuel Oil: Heating for the facility is provided from two fuel-fired Monitor 441 heaters. They are located in the electrical/store room near the waiting area and in the back office of the clinic. This heating system is inadequate for heating the clinic uniformly since each unit provides only a single, highly variable zone of heating. The nature of this heating arrangement is such that rooms where privacy or security is required will rapidly cool below the comfort zone and could also lead to freezing of plumbing and/or medications. Fuel for both Monitor heaters is provided by dedicated, 55-gallon fuel tanks located directly adjacent to the building exterior. Both of these tanks should be replaced with properly vented, piped and supported UL-listed tanks.

Ventilation: There is no mechanical ventilation for the clinic with the exception of the bathroom exhaust fan, which also was inoperable at the time of the inspection. The only other source of ventilation for the occupied spaces was though operable windows. Clinic personnel complain of stale and stuffy air.

Plumbing: Cold water is provided to the clinic from the village water supply and hot water is generated from an electric water heater physically located within Exam Room #1. A 4” gravity waste line connects from the building into the village sewer system. The sewer/waste system is reported to have a chronic freeze-up problem that occurs every year. During the winter 2000/2001 it froze in the fall and had not yet been thawed at the time of the inspection.

Plumbing fixtures in the building include a toilet, lavatory and bath tub/shower in the restroom, none of which meet ADA requirements. Exam rooms #1 and #2 have a double compartment and a single compartment sink, respectively. There was no mop sink in the clinic and water for house keeping is provided through a hose connection from the lavatory in the restroom. This is a code and health problem since the system is not protected with a vacuum breaker and cross contamination can occur. All fixtures appeared to be plumbed and vented correctly.

G. Electrical Condition

Power: 120/240-volt single-phase power is provided to the clinic's electrical meter through an overhead service. A 100-amp breaker is provided after the meter and a 225-amp panel is provided inside the building. The service is fed with copper conductors. The system appears to be grounded correctly to a grounding rod or to the building foundation (could not determine the exact grounding method due to snow located around the perimeter of the building). The panel installation appeared neat and orderly. All 16 breakers in the panel were used, but there is capacity for a maximum of 42 breakers. All wiring from the panel was run in EMT with copper conductors. Specific wiring and other electrical deficiencies are listed in the Deficiency Evaluation and Cost Assessment Forms. The numbers of receptacles inside the building is appropriate, and receptacles located within 10 feet of the exam room sinks and the restroom sink are protected with GFCIs. There are no receptacles on the outside of the building.

Lighting and Emergency Fixtures: Florescent fixtures with double 4-ft. 35-watt F40 bulbs provide interior lighting. Lighting levels appear acceptable, although they were not measured. The fixtures are low quality and most have lens covers that are damaged or missing. Exterior lighting is provided with incandescent fixtures at the entrances only. All exterior fixtures are in poor condition with most of the covers missing over the bulbs. All building lighting should be replaced with better and more efficient fixtures. Emergency light fixtures are hard wired where they are installed near the front entrance to the building and at the office area near the back exit. When tested we found the emergency light at the front entrance failed to energize while the other operated acceptably. One self-illuminating exit sign is installed over the back entrance. The front exit is not marked and an exit sign/fixture needs to be installed. Two smoke detectors are located in the building, one at the front entrance and the other in the back office area near the exit.

Telecommunications: The telecommunication system includes four phone lines into the building, two for the local incoming line, a fax line and a dedicated line for communication with the Kotzebue Hospital. A Telemed system was also recently installed.

H. Existing Facility Floor Plan

See following sheet for the floor plan of the existing clinic.

J. Community Plan

Refer to the attached community plan for location of the existing clinic and the proposed location for the new clinic. If the existing clinic site is the preferred location or if a new site has not yet been selected, only the existing clinic location will be shown.

IV. DEFICIENCY EVALUATION AND COST ASSESSMENT

The attached deficiency reporting forms are based on Public Health Service form AK H SA-43. The forms are numbered sequentially for each discipline starting with **A01** for Architectural and structural deficiencies, **M01** for Mechanical deficiencies and **E01** for Electrical deficiencies.

A. Deficiency Codes

Deficiencies are further categorized according to the following PHS Deficiency codes to allow the work to be prioritized for federal funding, should that apply. Deficiency codes used in this survey include:

02 **Fire and Life Safety:** These deficiencies identify areas where the facility is not constructed or maintained in compliance with provisions of the state mandated building codes including the International Building Code, The Uniform Fire Code, NFPA 101, The Uniform Mechanical and Plumbing Codes and The National Electrical Code.

03 **Safety:** These deficiencies identify miscellaneous safety issues.

04 **Environmental Quality:** This addresses DEC regulations, hazardous materials and general sanitation.

05 **Program Deficiencies:** These are deficiencies which show up as variations from space guidelines established in the Alaska Primary Care Facility Facility Needs Assessment Project and as further evaluated through observation at the facility site and documented in the facility floor plans.

07 **Disability Access Deficiencies:** The items with this category listing are not in compliance with the Americans with Disabilities Act.

08 **Energy Management:** These deficiencies address the efficiency of heating systems/fuel types and the thermal enclosures of buildings.

11 **Structural Deficiencies:** These are deficiencies with the fabric of the building. It may include the foundations, the roof or wall structure, the materials used, the insulation and vapor retarders, the attic or crawl space ventilation and the general condition of interior finishes. Foundation systems are included in this category.

12 **Mechanical Deficiencies:** These are deficiencies in the plumbing, heating, ventilating, air conditioning, or medical air systems.

13 **Electrical Deficiencies:** These are deficiencies with electrical generating and distribution systems, fire alarm systems and communications systems.

14 **Utilities:** This category is used for site utilities, as opposed to those within the building and may include sewer lines and water and power distribution.

B. Photographs

Each sheet has space for a photograph. Some deficiencies do not have photos. Photographs do not cover all areas where the deficiencies occur but are intended to provide a visual reference to persons viewing the report who are not familiar with the facility. Additional photographs of the clinic and the surrounding area are included in Appendix B.

C. Cost Estimate General Provisions

New Clinic Construction

- **Base Cost**

The Base Cost provided in Section VI of this report is the direct cost of construction, inclusive of general requirements (described below) and contingency for design unknowns (an estimating contingency) The base cost is exclusive of overhead and profit, mark-ups, area cost factors and contingencies. Material costs for the project are all calculated FOB Anchorage and labor rates are based on Davis Bacon wages, regionally adjusted to Anchorage. Transportation costs, freight, Per Diem and similar costs are included in the base costs. The Project Factors and Area Cost Factor are multipliers of the base costs.

General Requirements are based on Anchorage costs without area adjustment. It is included in the Base Cost for New Clinics. These costs are indirect construction cost not specifically identifiable to individual line items. It consists of supervision, materials control, submittals and coordination, etc. The general requirements factor has not been adjusted for Indian Preference.

The Design Unknowns Contingency is an estimator's contingency based on the schematic nature of the information provided, the lack of any real design, and the assumption that any project will encompass related work not specifically mentioned.

- **Project Cost Factors**

  Equipment Costs for new medical equipment has been added at 17% of the cost of new floor space.

  Design Services is included at 10% to cover professional services including engineering and design.

  Construction Contingency is included at 10% of the Base Costs to cover changes encountered during construction.

  Construction Administration has been included at 8% of the Base Costs. This is for monitoring and administration of the construction contract.

- **Area Cost Factor**

The Area Cost Factor used in the cost estimates for this facility is shown in Section VI of this report. The area cost factors are taken from a recent study completed for the Denali Commission for statewide healthcare facilities. The numbers are the result of a matrix of cost variables including such items as air travel, local hire costs, room and board, freight, fire protection equipment, foundation requirements, and heating equipment as well as contractor costs such as mobilization, demobilization, overhead, profit, bonds and insurance. These parameters were reconsidered for each village, following the site visit, and were modified, if necessary.

- **Estimated Total Project Cost of New Building**

This is the total estimated cost of the project, including design services. The construction contract will be work subject to Davis Bacon wages, and assumes construction before year-end 2001. No inflation factor has been applied to this data.

Remodel, Renovations, and Additions

- **Base Cost**

The Base Cost provided in the specific deficiency sheets is the direct cost of construction, exclusive of overhead and profit, mark-ups, area cost factors and contingencies. Material costs for the project are all calculated FOB Anchorage and labor rates are based on Davis Bacon wages, regionally adjusted to Anchorage. Most of the deficiency items do not constitute projects of sufficient size to obtain efficiency of scale. The estimate assumes that the projects are completed either individually, or combined with other similar projects of like scope. The numbers include moderate allowances for difficulties encountered in working in occupied spaces and are based on remodeling rather than on new construction costs. Transportation costs, freight, Per Diem and similar costs are included in the base costs. The General Requirements, Design Contingency and Area Cost Factors are multipliers of the base costs.

The cost of Additions to clinics is estimated at a unit cost higher than New clinics due to the complexities of tying into the existing structures.

Medical equipment is calculated at 17% of Base Cost for additions of new space only and is included as a line item in the estimate of base costs.

- **General Requirements Factor**

General Requirements Factor is based on Anchorage costs without area adjustment. The factor is 1.20. It is multiplied by the Base Cost to get the project cost, exclusive of planning, architecture, engineering and administrative costs. This factor assumes projects include multiple deficiencies, which are then consolidated into single projects for economies of scale. The general requirements factor has not been adjusted for Indian Preference.

- **Area Cost Factor**

The Area Cost Factor used in the cost estimates for this facility is shown in Section VI of this report. The area cost factors are taken from a recent study completed for the Denali Commission for statewide healthcare facilities. The numbers are the result of a matrix of cost variables including such items as air travel, local hire costs, room and board, freight, fire protection equipment, foundation requirements, and heating equipment as well as contractor costs such as mobilization, demobilization, overhead, profit, bonds and insurance. These parameters were reconsidered for each village, following the site visit, and were modified, if necessary.

- **Contingency for Design Unknowns (Estimating Contingency)**

The Design Unknowns Contingency is an estimator's contingency based on the schematic nature of the information provided, the lack of any real design, and the assumption that any project will encompass related work not specifically mentioned. The factor used is 1.15.

- **Estimated Total Cost**

This is the total estimated bid cost for work completed under Davis Bacon wage contracts, assuming construction before year-end 2001. This is the number that is entered in the front of the deficiency form. No inflation factor has been applied to this data.

- **Project Cost Factors**

Similar to new clinics, the following project factors have been included in Section VI of this report.

Design Services is included at 10% to cover professional services including engineering and design.

Construction Contingency is included at 10% of the Base Costs to cover changes encountered during construction.

Construction Administration has been included at 8% of the Base Costs. This is for monitoring and administration of the construction contract.

- **Estimated Total Project Cost of Remodel/Addition**

This is the total estimated cost of the project including design services, the construction contract cost for work completed under Davis Bacon wages and assuming construction before year-end 2001. No inflation factor has been applied to this data.

V. SUMMARY OF EXISTING CLINIC DEFICIENCIES

The attached table summarizes the deficiencies at the clinic and provides a cost estimate to accomplish the proposed modifications. If all deficiencies were to be addressed in a single construction project there would be cost savings that are not reflected in this tabulation. The total cost of remodel/addition shown in Section VI is intended to show an overall remodel cost that reflects this economy. Refer to Section VI for a comparison of remodel/addition costs to the cost of new construction. The specific deficiency sheets are included in Appendix A.

VI. NEW CLINIC ANALYSIS

The decision on whether to fund new clinic construction or a remodel/addition of the existing clinic is to be determined by comparing the cost of a new facility designed to meet the program requirements of the Alaska Rural Primary Care Facilities minimum area requirements with the projected combined cost of renovating, remodeling and adding onto the existing building to provide an equivalent facility. If the cost of the remodel/addition project is greater than 75% of the cost of constructing an altogether new facility then a new facility is recommended. That ratio is computed as follows:

- **The cost of a new clinic in Buckland is projected to be:**

Base Anchorage Cost per s.f.		$183/ s.f.
Medical Equipment Costs @ 17%		$31
Design Services 10%		$18
Construction Contingency 10%		$18
Construction Administration. 8%		$15
Sub-total		$265/ s.f.
Area Cost Factor for Buckland	1.52*	
Adjusted Cost per s.f.		$404/ s.f.

Total Project Cost of NEW BUILDING 2,000 x $404 = $808,000

- **The cost of a Remodel/Renovation/Addition is projected to be:**

Projected cost of code/condition renovations (From the deficiency summary)
90% of cost of code/condition improvement** $286,240 Renovation

Projected cost of remodeling work (See A08)
1,152 s.f. clinic @ 75% remodel = 864 s.f. $74,998 Remodel

Projected cost of building addition (See A11)
2,000 s.f. – 1,152 s.f. = 848 s.f. $459,072 Addition
Design 10%, Const. Contingency 10%, Const. Admin. 8% $229,687

Total Project Cost of REMODEL ADDITION **$1,049,997**

- **Ratio of remodel:new is $1,049,997: $808,000 = 1.30X**

The cost of a remodel/addition for this clinic would cost 130% the cost of a new clinic, therefore, a new clinic is recommended for this community.

* The Area Cost Factor was refined by Estimations, Inc. in July 2001 based on information obtained during the site visit.

** The 90% factor represents economy of scale by completing all renovation work in the same project.

Appendix A: SPECIFIC DEFICIENCIES LISTING

Refer to the attached sheets for the listing of the individual deficiencies and the corrective action recommended.

Appendix B: GENERAL SITE PHOTOGRAPHS

The following sheets provide additional photographic documentation of the existing building and surroundings.

Appendix C: ADCED Community Profile

Refer to the attached document prepared by Alaska Department of Community and Economic Development profiling the community of Buckland.

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